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CLAIMS

1. An electromagnetic signal processing system comprising a plurality of optical fibre arrays, each optical fibre array having a cluster of optical fibres with their one ends oriented to receive electromagnetic radiation from free-space and arranged to transmit the electromagnetic radiation to an array output, and the array outputs are connected to transmit the electromagnetic radiation in sequence to a signal detector input.
2. An electromagnetic signal processing system, according to Claim 1, in which the sequential connection of the array outputs is through at least one optical delay.
3. An electromagnetic signal processing system, according to Claim 1 or 2, in which the optical fibre arrays are arranged as a plurality of array groups, each array group has a respective array group output, and the array group outputs are connected in series by respective optical delays to the signal detector input.
4. An electromagnetic signal processing system, according to Claim 1 or 2, in which the optical fibre arrays are arranged as a plurality of array groups, each array group has a respective array group output, and an array group output of one array group is connected to an input to another array group.
5. An electromagnetic signal processing system, according to Claim 4, in which the connection of the array group output from one array group to the input of the other array group is through an optical delay.
6. An electromagnetic signal processing system, according to Claim 1 or 2, in which the optical fibre arrays are arranged as a plurality of array groups, each array group has a respective array group output, and an optical switch is arranged operatively between the array group outputs and the signal detector input.
7. An electromagnetic signal processing system, according to any preceding claim, including a source of electromagnetic radiation arranged

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to radiate discrete pulses of radiation through the array outputs towards the one end of the optical fibres for transmission into free-space..

8. An electromagnetic signal processing system, according to Claim 3, in which at least two of the array group outputs include a respective source of electromagnetic radiation arranged to radiate discrete pulses of radiation through the array group outputs towards the one end of the optical fibres for transmission into free-space, and each source of electromagnetic radiation is arranged so that it may produce its discrete pulses of radiation with different characteristics.
9. An electromagnetic signal processing system, according to any of Claims 2 to 9, in which at least one of the optical delays is provided by a length of optical fibre.
10. An electromagnetic signal processing system comprising a plurality of optical fibre arrays, each optical fibre array having a cluster of optical fibres with their one ends oriented to transmit electromagnetic radiation into free-space and arranged to receive the electromagnetic radiation from an array input, and the array inputs are connected to receive the electromagnetic radiation in sequence from a source of electromagnetic radiation.
11. An electromagnetic signal processing system, according to Claim 10, in which the sequential connection of the array inputs is through at least one optical delay.
12. An electromagnetic signal processing system, according to Claim 10 or 11, in which the optical fibre arrays are arranged as a plurality of array groups, each array group has a respective array group input, and the array group inputs are connected in series by respective optical delays to the source of electromagnetic radiation.
13. An electromagnetic signal processing system, according to Claim 10 or 11, in which the optical fibre arrays are arranged as a plurality of array groups, each array group has a respective array group input, and an

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array group input of one array is connected to an output of another array group.

14. An electromagnetic signal processing system, according to Claim 13, in which the connection of the array group input from one array group to the output of the other array group is through an optical delay.
15. An electromagnetic signal processing system, according to Claim 10 or 11, in which the optical fibres arrays are arranged as a plurality of array groups, each array group has a respective array group input, and an optical switch is arranged operatively between the array group inputs and the source of electromagnetic radiation.
16. An electromagnetic signal processing system, according to any of Claims 11 to 15, in which at least one of the optical delays is provided by a length of optical fibre.
17. A laser-radar including an electromagnetic signal processing system according to any preceding claim.

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